

### **Scientific Abstract**

This is phase I/II pilot project will evaluate the survival, tolerance, safety, and efficacy of infusions of activated, gene marked, syngeneic T lymphocytes obtained from HIV seronegative identical twins on the functional immune status of HIV infected twin recipients. T cells from each seronegative twin will be obtained by periodic apheresis, separated into CD4 and CD8 enriched populations by monoclonal antibody affinity techniques, induced to polyclonal proliferation with anti-CD3 and rIL-2 stimulation, transduced with distinctive NeoR retroviral vectors, and expanded 10-1000-fold during approximately 2 weeks in tissue culture. The marked T cell populations will then be infused into the HIV infected twin and the survival of the uniquely marked T cells will be monitored by vector specific PCR, while the HIV infected recipient's functional immune status will be monitored by standard in vitro and in vivo tests. A total of 3 treatments will be given at intervals of 6 weeks to each patient.